Amendments to the Drawings:

The attached replacement drawing sheet makes changes to Fig. 4A and replaces the original sheet with Figs. 4A and B.

Attachment: Replacement Sheet

REMARKS

Claims 1, 3-7 and 10-21 are pending. By this Amendment, claims 1, 3, 6, 10 and 11 have been amended, claims 2, 8 and 9 have been canceled and claims 20 and 21 have been added. Support for the amendments to the independent claims 1 and 10 can be found in paragraphs [0038] and [0046], for example, of Applicant's specification. Support for the features in the new claims can be found in paragraphs [0035] and [0046], for example, of Applicant's specification. The specification and Fig. 4A have been amended. In particular, Fig. 4A has been amended to replace reference numeral 45 with reference numeral 48.

An Election of Species was required in this application and Applicant elected Figs. 2, 3 and 5-7. Claims 1, 3-7, 10-15, 20 and 21 read on the elected species and claim 1 remains generic to claims 16-19. Applicant requests rejoinder of claims 16-19 when claim 1 is found to be allowable. See MPEP 821.04.

The drawings were objected to based on an informality. By this amendment, Fig. 4A has been amended to replace reference numeral 45 with reference numeral 48. It is respectfully requested that the objection be withdrawn.

The specification was objected to based on various informalities. By this amendment, the specification has been amended responsive to the objection. With gF, 1 gF is equal to a force that will impart a gravitational acceleration ($9.8m/s^2$) to a mass of 1 gram, for example. It is respectfully requested that the objection be withdrawn.

Claim 6 was objected to based on an informality. By this amendment, claim 6 has been amended responsive to the objection. It is respectfully requested that the objection be withdrawn.

Claims 1, 2 and 4 were rejected under 35 U.S.C. §102(b) over Rider et al. (Rider), U.S. Patent No. 5,653,439, and claims 3, 10 and 11 were rejected under 35 U.S.C. §103(a)

over Rider in view of Hirabayashi et al. (Hirabayashi), U.S. Patent No. 6,325,560. The rejections are respectfully traversed.

Rider and Hirabayashi fail to disclose or suggest a feeding device with a drive roller having an annular recess and a driven roller, wherein a radially outer end portion of the driven roller is positioned within the annular recess, as recited in claim 1 and as similarly recited in claim 10.

Rider discloses a drive roller 20 and idler rollers 10 (driven roller) (Fig. 2). As shown in Rider's Fig. 2, the drive roller 20 does not include an annular recess. A radially outer end portion of the idler rollers 10 is thus not positioned within the annular recess of the drive roller 20. Rider's drive shaft 40 and idler shaft 30 do not correspond to the drive roller and driven roller of claims 1 and 10. Rider's drive roller 20 and idler roller 10 correspond to the drive roller and driven roller of claims 1 and 10.

Rider and Hirabayashi also fail to disclose or suggest a feeding device with an overlap-amount limiter that is unmovable by rotation of the drive roller, the overlap-amount limiter including a contact portion which is positioned within the annular recess and which is, during absence of the recording medium between the drive roller and the driven roller, held in contact at a surface thereof with the radially outer end portion of the driven roller, as recited in claim 1 and as similarly recited in claim 10.

Rider fails to disclose an overlap-amount limiter. Page 5 of the Office Action asserts that Rider's drive roller 20 is the overlap-amount limiter of claims 1 and 10. This is not correct. As shown in Rider's Fig. 2, the drive roller 20 is not held in contact at a surface thereof with a radially outer end portion of the idler roller 10 or the idler shaft 30, during an absence of the recording medium. Furthermore, Rider's drive roller 20 rotates with the drive shaft 40 and is thus movable by a rotation of the drive shaft 40. In other words, Rider fails to

disclose or suggest an overlap-amount limiter that is unmovable by a rotation of the drive roller, as recited in claims 1 and 10.

Hirabayashi fails to overcome the deficiencies of Rider.

It is respectfully requested that the rejections be withdrawn.

Claims 1-3 and 6 were rejected under 35 U.S.C. §102(b) over JP 09086749 (JP'749). The rejection is respectfully traversed.

JP'749 fails to disclose a feeding device with an overlap-amount limiter that is unmovable by rotation of the drive roller, the overlap-amount limiter including a contact portion which is positioned within the annular recess and which is, during absence of the recording medium between the drive roller and the driven roller, held in contact at a surface thereof with the radially outer end portion of the driven roller, as recited in claim 1.

JP'749 discloses a spur 16 (driven roller) (Fig. 4A). However, JP'749 fails to disclose an overlap-amount limiter that is held in contact at a surface thereof with a radially outer end portion of the spur 16, during an absence of the recording medium. Page 6 of the Office Action identifies JP'749's friction body 20 as the overlap-amount limiter of claim 1. However, if sheet material does not exist between the friction body 20 and the spur 16, the contact end of the spur 16 is kept from coming into contact with the friction body 20 (Abstract).

Furthermore, JP'749's friction body 20 rotates with the drive roller 14 and is thus movable by a rotation of the drive roller 14. In other words, JP'749 fails to disclose an overlap-amount limiter that is unmovable by a rotation of the drive roller, as recited in claim 1.

It is respectfully requested that the rejection be withdrawn.

Claims 1, 2, 6, 12 and 13 were rejected under 35 U.S.C. §103(a) over Ahn, U.S. Patent No. 5,897,259, in view of Uchikata, U.S. Patent No. 5,961,234. The rejection is respectfully traversed.

Ahn and Uchikata fail to disclose or suggest a feeding device with an overlap-amount limiter that is unmovable by rotation of the drive roller, the overlap-amount limiter including a contact portion which is positioned within the annular recess and which is, during absence of the recording medium between the drive roller and the driven roller, held in contact at a surface thereof with the radially outer end portion of the driven roller, as recited in claim 1.

Ahn discloses a paper feeding unit with a conveyance roller 55 (drive roller) and a friction roller 62 (driven roller). As shown in Ahn's Fig. 3, the conveyance roller 55 does not include an annular recess and a radially outer end portion of the friction roller 62 is not placed in any recess of the conveyance roller 55. Because Ahn fails to disclose an annular recess in the conveyance roller 55, Ahn fails to disclose or suggest an overlap-amount limiter that is placed in an annular recess of the conveyance roller 55. Ahn's roller shaft 62a is not an annular recess because the roller shaft 62a is a protrusion of the friction roller 62 and the roller shaft 62a is formed on an outer axial surface.

Uchikata fails to overcome the deficiencies of Ahn. Uchikata discloses a sheet conveying apparatus with a sheet discharge roller 41 (drive roller) and a spur 42 (driven roller (Fig. 7A and col. 8, lines 12-22). Located within the discharge roller groove portions 412 (annular recess) of the sheet discharge roller 41 is an absorbing body 412c that is held in contact at a surface thereof with a radially outer end portion of the spur 42, when the recording medium is absent. Uchikata's third embodiment (Figs. 7A and 7B) is the only embodiment that discloses any structure that is placed within the discharge roller groove portions 412 of the sheet discharge roller 41.

Uchikata fails to disclose an overlap-amount limiter that is unmovable by a rotation of the drive roller, as recited in claim 1. Uchikata's absorbing body 412c (which is the only structure that contacts the spur 42) is located within the discharge roller groove portions 412 of the sheet discharge roller 41. As such, the absorbing body 412c is movable by rotation of the sheet discharge roller 41. By using an overlap-amount limiter that is unmovable by rotation of the drive roller, as recited in claim 1, the overlap-amount limiter does not cause scratches or wear on the drive roller since they are not moved relative to each other even when the drive roller is rotated while the driven roller is not rotated (paragraph [0046] of Applicant's specification).

It is respectfully requested that the rejection be withdrawn.

Claims 14 and 15 were rejected under 35 U.S.C. §103(a) over Ahn in view of Uchikata and Asano et al. (Asano), U.S. Patent No. 5,291,224; claim 5 was rejected under 35 U.S.C. §103(a) over Ahn in view of Uchikata and Taruki, U.S. Patent No. 6,254,078; and claim 7 was rejected under 35 U.S.C. §103(a) over Rider in view Bekki, U.S. Patent No. 5,606,357. The rejections are respectfully traversed.

Asano, Taruki and Bekki fail to overcome the deficiencies of Ahn and Uchikata in disclosing or suggesting the overlap-amount limiter, as recited in claim 1. It is respectfully requested that the rejections be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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Scott M. Schulte
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JAO:SMS/sxb

Attachments:
Petition for Extension of Time
Replacement sheet

Date: January 17, 2006

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